

**PRACTICE TEST 4, CHAPTER 7***Beginning and Intermediate Algebra* by Elayn Martin-Gay, 4<sup>th</sup> edition*Find the domain of each rational expression.*

1.  $f(x) = \frac{x-3}{2x-8}$

2.  $g(x) = \frac{7x}{x^2-4x+3}$

*Find each function value.*

3.  $g(x) = \frac{x^2+1}{x-2}$       a.  $g(1) = ?$       b.  $g(2) = ?$       c.  $g(0) = ?$

*Simplify*

4.  $\frac{5x-15}{25x-75}$

5.  $\frac{2x^2+4x-30}{x^2+x-20}$

*Find the least common denominator (LCD) for the pair of rational expressions.*

6.  $\frac{17x}{4y^5}, \frac{2}{10y}$

7.  $\frac{19x+5}{4x-12}, \frac{3}{x^2-3x}$

*Perform the indicated operations. Simplify the answer if possible.*

8.  $\frac{5}{x-1} \cdot (4x-4)$

9.  $\frac{a^2-4a+4}{a^2-4} \div \frac{a-2}{a+3}$

10.  $\frac{9x+18}{3x^2+x} \cdot \frac{3x^2+13x+4}{x^2-16}$

11.  $\frac{5x}{x+2} - \frac{3x-4}{x+2}$

12.  $\frac{x+2}{x^2-5x} + \frac{4}{3x-15}$

13.  $\frac{5}{x-4} + \frac{4x}{x^2-16}$

14.  $\frac{x}{x^2-4} - \frac{5}{x^2-4x+4}$

15.  $\frac{x+4}{x^2+12x+20} + \frac{x+1}{x^2+8x-20}$

Solve each equation and check your solution.

16.  $5 + \frac{4}{x} = 1$

17.  $\frac{2a}{a+2} - 5 = \frac{7a}{a+2}$

18.  $\frac{2y}{y-2} - \frac{4}{y-2} = 4$

19.  $\frac{3}{x+3} = \frac{12x+19}{x^2+7x+12} - \frac{5}{x+4}$

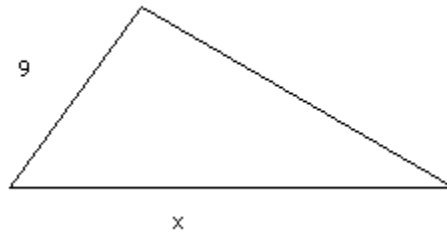
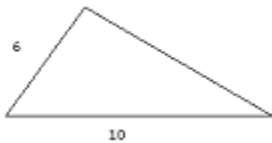
Simplify each complex fraction.

20.  $\frac{\frac{3x}{4}}{\frac{11x}{20}}$

21.  $\frac{\frac{2}{x^2} + \frac{1}{x}}{\frac{4}{x^2} - \frac{1}{x}}$

Solve.

22. Given that the pair of triangles are similar, find x.



23. One conveyor belt can move 1000 boxes in 11 minutes. Another can move 1000 boxes in 8 minutes. If the two belts work together how long would it take to complete the job?

**MATH 0304**  
**PRACTICE TEST 4 ANSWERS**

1. $x \neq 4$	12. $\frac{7x+6}{3x(x-5)}$
2. $x \neq 1, 3$	
3. a. -2    b. undefined    c. -1/2	13. $\frac{9x+20}{(x-4)(x+4)}$
4. 1/5	
5. $\frac{2(x-3)}{x-4}$	14. $\frac{x^2-7x-10}{(x+2)(x-2)^2}$
6. $20y^5$	15. $\frac{2x^2+5x-6}{(x+10)(x+2)(x-2)}$
7. $4x(x-3)$	16. -1
	17. -1
8. 20	18. No Solution
9. $\frac{a+3}{a+2}$	19. 2
10. $\frac{9(x+2)}{x(x-4)}$	20. 15/11
	21. $\frac{2+x}{4-x}$
11. 2	22. 15
	23. $4\frac{12}{19}$ hours